

CLAIMS

1. A lens array sheet having a plurality of pyramid-shaped projections or recesses on a surface of its transparent base material film.

2. The lens array sheet as set forth in claim 1, wherein a bottom surface of the pyramid shape is a rectangular or square shape satisfying a relationship of (length "a" of one side) \leq (length "b" of other side) \leq 10a.

3. The lens array sheet as set forth in claim 2, wherein the length "a" of one side of the bottom surface of the pyramid shape is 0.1 μm to 20 μm .

4. The lens array sheet as set forth in claim 3, wherein a height "c" of the pyramid shape is $0.2a \leq c \leq 2a$ with respect to the length "a".

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5. The lens array sheet as set forth in claim 3, wherein a width "s" between adjacent projections or recesses is not more than 50% of the length "a".

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6. The lens array sheet as set forth in claim 1,

wherein a base angle θ of side surfaces of the pyramid shape is 20° to 80° .

7. The lens array sheet as set forth in claim 1,
5 wherein the transparent base material film is composed substantially of an alicyclic olefin resin.

8. The lens array sheet as set forth in claim 7,
wherein the alicyclic olefin resin is a norbornene based
10 polymer or a vinyl alicyclic hydrocarbon polymer.

9. The lens array sheet as set forth in claim 1
produced by injection molding using a mold having
pyramid-shaped projections or recesses on its surface.
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10. A mold, made by a metal layer and provided
with pyramid shaped projections on its surface, wherein
said metal layer is obtained by forming a metal layer on
said pattern of a substrate formed with a pyramid-shaped
20 concave pattern and peeling the metal layer from the
substrate.

11. The mold as set forth in claim 10, wherein
as the substrate formed with a pyramid-shaped
25 concave pattern, a mold made by silicon formed by

(1) a step of forming a positive type resist pattern on a silicon wafer formed on its surface with a silicon oxide layer,

(2) a step of forming a silicon oxide pattern by performing etching on the silicon oxide layer by an etching solution containing hydrofluoric acid by using the resist pattern as a mask,

(3) a step of removing the resist pattern and performing anisotropic etching on the silicon wafer surface by an alkaline solution to form pyramid-shaped recesses, and

(4) a step of removing the silicon oxide pattern by an etching solution containing hydrofluoric acid is used.

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12. A mold made by a metal layer and provided with pyramid shaped projections on its surface, wherein said metal layer is obtained, by using the mold as set forth in claim 10 or 11, by forming a metal layer on a surface of the mold and peeling the metal layer from the mold.

13. A light condensing plate composed of a lens array sheet as set forth in claim 1.

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14. An organic electroluminescence element,
comprising

a transparent substrate composed of a lens array
sheet as set forth in claim 1,

5 a transparent electrode layer stacked on the
transparent substrate,

an organic electroluminescence material layer
stacked on the transparent electrode layer, and

a metal electrode layer stacked on the organic
10 electroluminescence material layer.

15. A display device comprising an organic
electroluminescence element as set forth in claim 14.